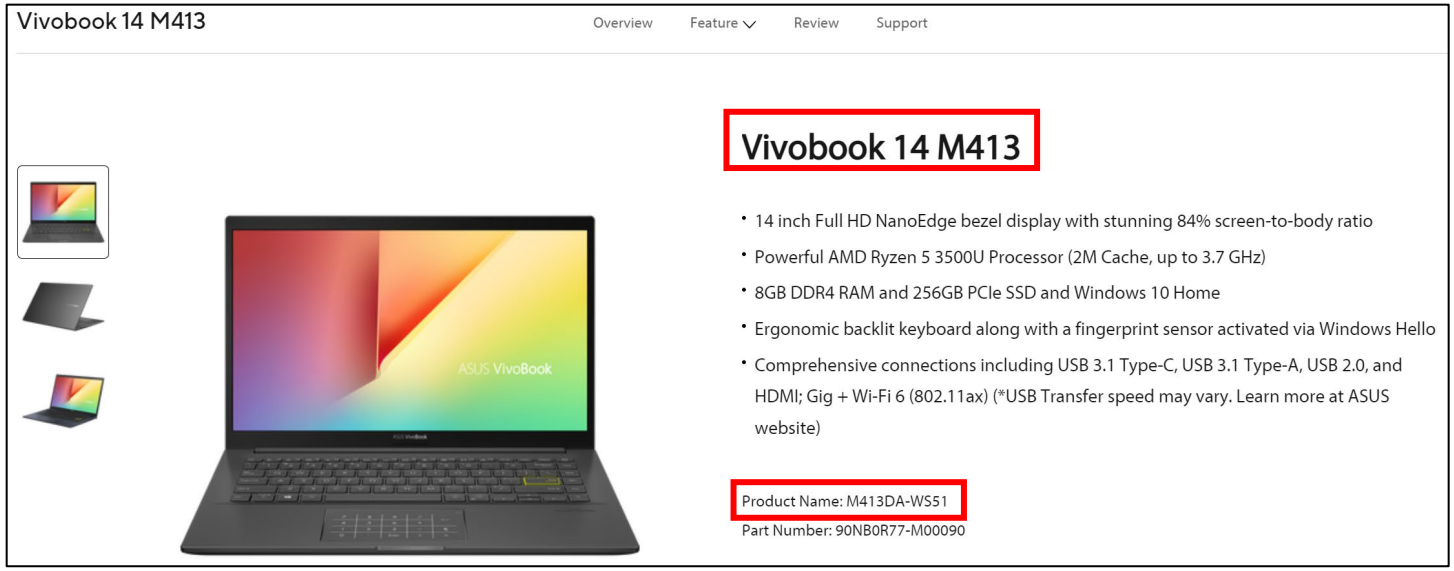
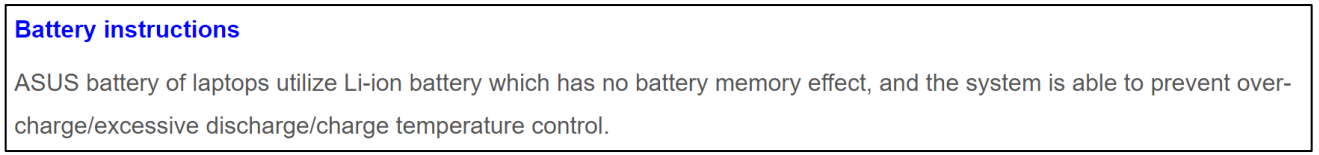
Exhibit 6: U.S. Patent No. 7,956,581

Claims	Identification
10[pre] A method of operating a rechargeable battery pack, comprising::	To the extent the preamble is limiting, Asus-branded devices practice a method of operating a rechargeable battery pack, comprising:.



See, e.g., *Vivobook 14 M413*, Asus, https://shop.asus.com/us/90nb0r77-m00090-vivobook-14-m413.html (last visited Feb. 20, 2024).



See, e.g., *[Notebook] Battery and Power Adapter (Charger) Specifications and Recommended Usage*, Asus (Dec. 8, 2023, 16:41), https://www.asus.com/support/faq/1015066/.

Claims	Identification

Test Report issued under the responsibility of:

TEST REPORT
IEC 62368-1
Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number ..... :	ASL19082825-003
Date of issue ..... :	2020-03-17
Total number of pages ..... :	62
Applicant's name ..... :	ASUSTEK COMPUTER INC
Address ..... :	**1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan**
Test Item description ..... :	Notebook PC
Trade Mark ..... :	(1) or ASUSTek Computer Inc (2) or adol or adol
Manufacturer ..... :	Same as applicant.
Model/Type reference ..... :	X421xyyyyyyyyyyyyyyyy, S433xyyyyyyyyyyyyyyyy, K433xyyyyyyyyyyyyyyyy, V433xyyyyyyyyyyyyyyyy, S4600xyyyyyyyyyyyyyyyy, ADOL14Fxyyyyyyyyyyyyyyyy, X413xyyyyyyyyyyyyyyyy, F413xyyyyyyyyyyyyyyyy, A413xyyyyyyyyyyyyyyyy, R428xyyyyyyyyyyyyyyyy, VIVOBOOK14xyyyyyyyyyyyyyyyy, REDOLBOOK14xyyyyyyyyyyyyyyyy, M433xyyyyyyyyyyyyyyyy, D433xyyyyyyyyyyyyyyyy, M413xyyyyyyyyyyyyyyyy, D413xyyyyyyyyyyyyyyyy, M4600xyyyyyyyyyyyyyyyy, M4100xyyyyyyyyyyyyyyyy, M4050xyyyyyyyyyyyyyyyy, S413xyyyyyyyyyyyyyyyy, K413xyyyyyyyyyyyyyyyy, V413xyyyyyyyyyyyyyyyy, V4100xyyyyyyyyyyyyyyyy, V4050xyyyyyyyyyyyyyyyy, R438xyyyyyyyyyyyyyyyy, A415xyyyyyyyyyyyyyyyy, **ADOL14Jxyyyyyyyyyyyyyyyy** (x = A-Z, a-z, - or blank; y =0-9, A-Z, a-z, - or blank, for marketing purpose and no impact safety related construction and critical components)
Ratings ..... :	19Vdc, 2.37A or 3.42A

Claims	Identification
	Copy of marking plate: The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks. [19Vdc, 2.37A]  **Model Differences** X421xyyyyyyyyyyyyyyyy, S433xyyyyyyyyyyyyyyyy, K433xyyyyyyyyyyyyyyyy, V433xyyyyyyyyyyyyyyyy, S4600xyyyyyyyyyyyyyyyy, ADOL14Fxyyyyyyyyyyyyyyyy, X413xyyyyyyyyyyyyyyyy, F413xyyyyyyyyyyyyyyyy, A413xyyyyyyyyyyyyyyyy, R428xyyyyyyyyyyyyyyyy, VIVOBOOK14xyyyyyyyyyyyyyyyy, REDOLBOOK14xyyyyyyyyyyyyyyyy, M433xyyyyyyyyyyyyyyyy, D433xyyyyyyyyyyyyyyyy, M413xyyyyyyyyyyyyyyyy D413xyyyyyyyyyyyyyyyy, M4600xyyyyyyyyyyyyyyyy, M4100xyyyyyyyyyyyyyyyy, M4050xyyyyyyyyyyyyyyyy, S413xyyyyyyyyyyyyyyyy, K413xyyyyyyyyyyyyyyyy, V413xyyyyyyyyyyyyyyyy, V4100xyyyyyyyyyyyyyyyy, V4050xyyyyyyyyyyyyyyyy, R438xyyyyyyyyyyyyyyyy, A415xyyyyyyyyyyyyyyyy, **ADOL14Jxyyyyyyyyyyyyyyyy** (x = A-Z, a-z, - or blank; y =0-9, A-Z, a-z, - or blank, for marketing purpose and no impact safety related construction and critical components) All models are identical except for model designation.

Claims	Identification

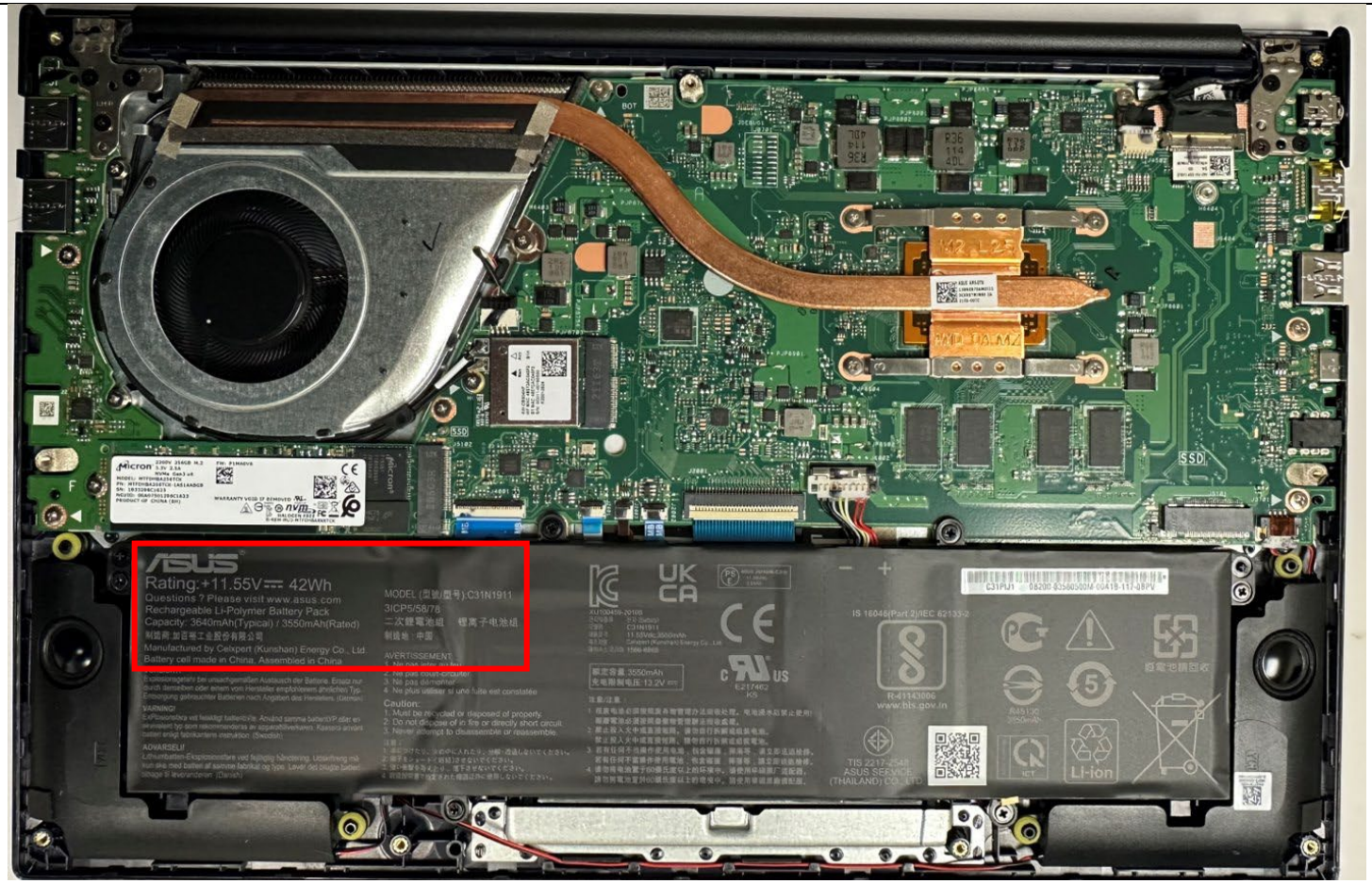
4.1.2	TABLE: List of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1]
Battery Pack	SIMPLO TECHNOLOGY CO LTD	C31N1905	11.55Vdc, 4335mAh or 4210mAh or 50Wh	UL 60950-1, 2nd Edition, IEC 60950-1:2005/AMD2:2013, EN 60950-1:2006 /A11:2009 /A1:2010 /A12:2011 /A2:2013, IEC 62133:2012, EN 62133: 2013, UL 2054, IEC 62368-1:2014, EN 62368-1:2014/A11:2017, UL 62368-1, 2nd Edition	UL, CB by Demko (DK-88058-UL, DK-88017-UL, DK-88066-UL)
Battery Pack (Alternate)	DYNAPACK INTERNATIONAL TECHNOLOGY CORP	C31N1905	11.55Vdc, 50Wh (for IEC 60950-1) 11.55Vdc, 50Wh or 4335mAh / 4210mAh (for IEC 62133)	UL 60950-1, 2nd Edition, IEC 60950-1:2005/AMD2:2013, EN 60950-1:2006 /A11:2009 /A1:2010 /A12:2011 /A2:2013, IEC 62133:2012, EN 62133: 2013, UL 2054 IEC 62368-1:2014, EN 62368-1:2014/A11:2017, UL 62368-1, 2nd Edition	UL, CB by Demko (DK-88548-UL, DK-88509-UL, DK-88694-UL)

Claims	Identification

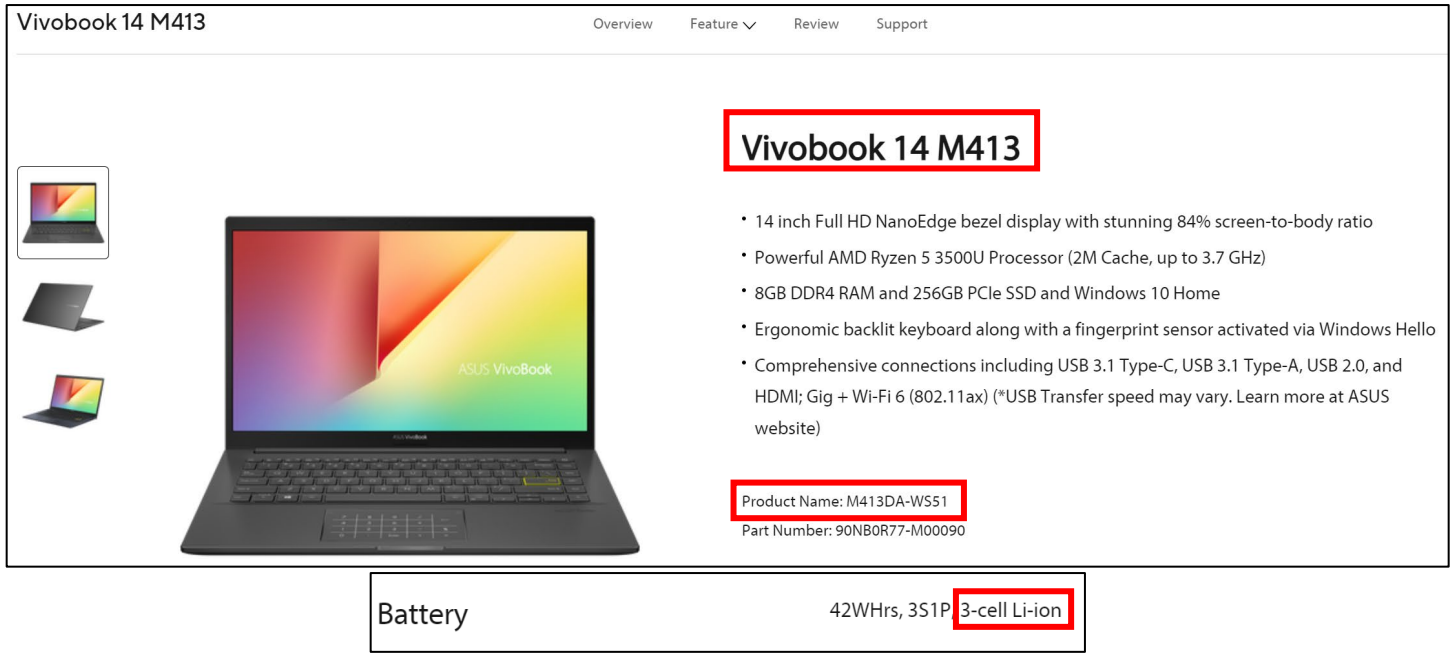
4.1.2	TABLE: List of critical components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1]
Battery Pack (Alternate)	CELXPERT ENERGY CORP	B31N1911	11.55Vdc, 42Wh or 3640mAh / 3550mAh	UL 60950-1, 2nd Edition, IEC 60950-1:2005/AMD2:2013, EN 60950-1:2006 /A11:2009 /A1:2010 /A12:2011 /A2:2013, IEC 62133:2012, EN 62133: 2013, UL 2054 IEC 62368-1:2014, EN 62368-1:2014/A11:2017, UL 62368-1, 2nd Edition	UL, CB by Demko (DK-90292-UL, DK-89997-UL, DK-90922-UL)
Battery Pack (Alternate)	CELXPERT ENERGY CORP	C31N1911	11.55Vdc, 42Wh or 3640mAh / 3550mAh	IEC 60950-1:2005/AMD2:2013, EN 60950-1:2006/A2:2013, IEC 62133:2012, EN 62133: 2013, UL 2054, IEC 62368-1:2014, EN 62368-1:2014/A11:2017, UL 62368-1, 2nd Edition	UL, CB by Demko (DK-91479-UL, DK-91128-UL, DK-91884-UL)

See, e.g., Universal Standard Service, Inc., *Test Report IEC 62368-1* at 1, 2, 5, 6, 11, 12, 20, 25, 26 (App. No. ASL19082825-003, Mar. 17, 2020) *available at* https://dlcdnets.asus.com/pub/ASUS/nb/X421JQ/Rep_CB62368_X421xyyyyyyyyyyyyyyyy_M3.pdf.

Claims	Identification
	

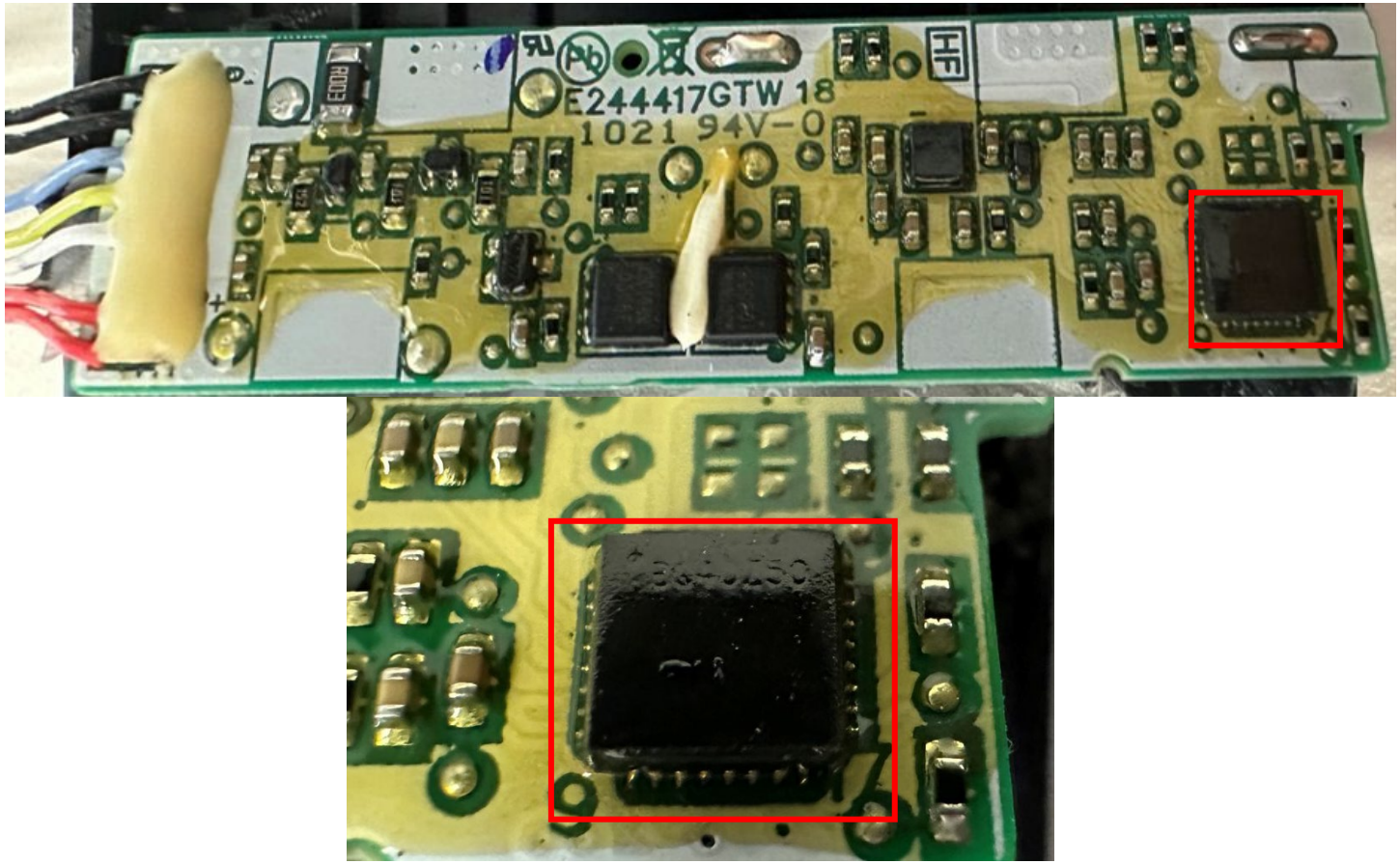
Claims	Identification
	  *See, e.g.*, Internal Testing.

Claims	Identification
10[a] employing a power cell to supply current;	Asus-branded devices employ a power cell to supply current.



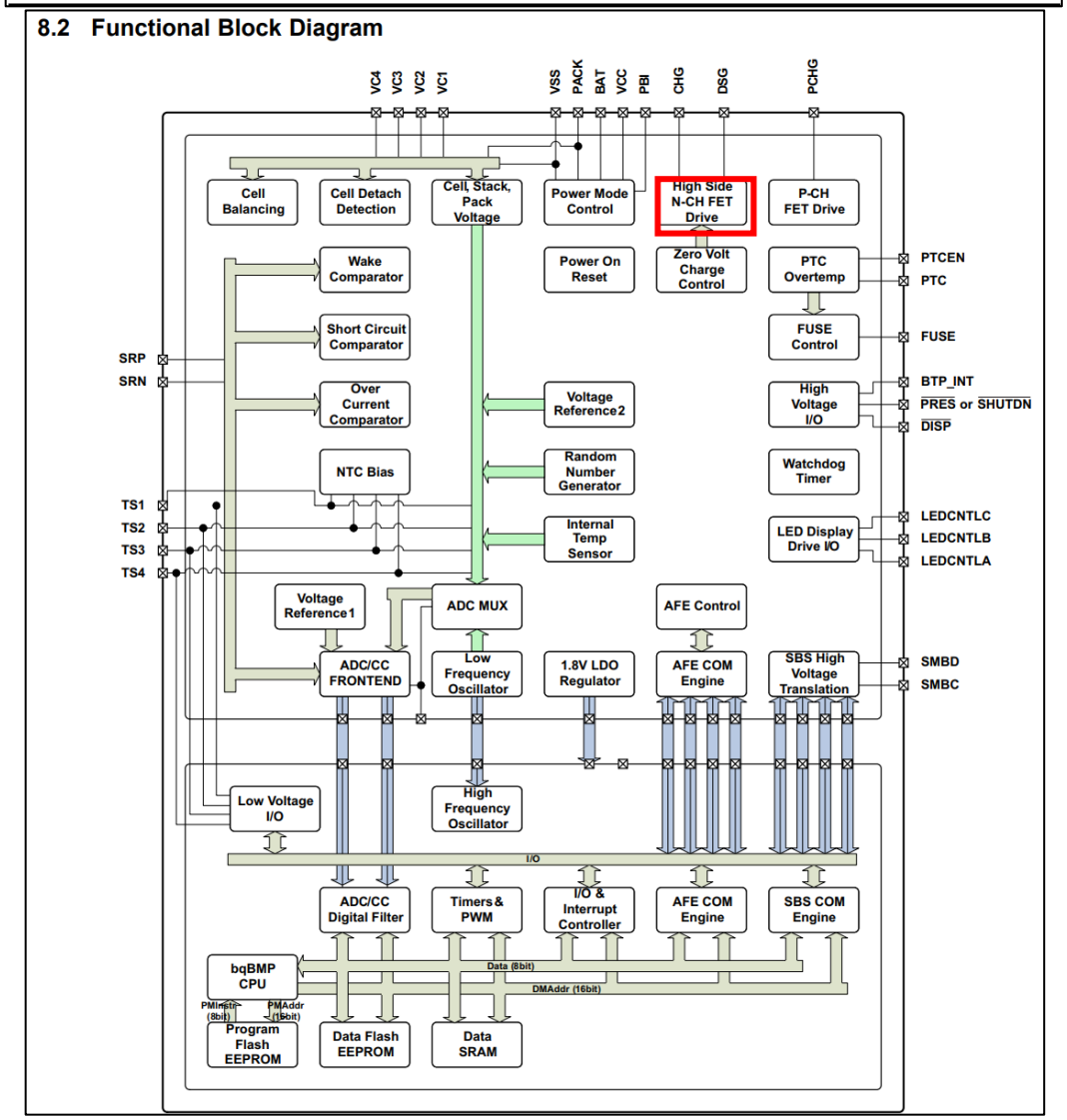
See, e.g., *Vivobook 14 M413*, Asus, https://shop.asus.com/us/90nb0r77-m00090-vivobook-14-m413.html (last visited Feb. 20, 2024).

See, e.g., Internal Testing.

Claims	Identification
10[b] employing an electronic switch to conduct substantially all of the current passing through the power cell when the electronic switch is in a conducting condition, and to prevent substantially all of the current from passing through the power cell when the electronic switch is in a non-conducting condition;	Asus-branded devices employ an electronic switch to conduct substantially all of the current passing through the power cell when the electronic switch is in a conducting condition, and to prevent substantially all of the current from passing through the power cell when the electronic switch is in a non-conducting condition;  *See, e.g.*, Internal Testing (showing a rechargeable battery pack including a PCB including a Texas Instruments BQ40Z50 Li-ion battery pack manager).

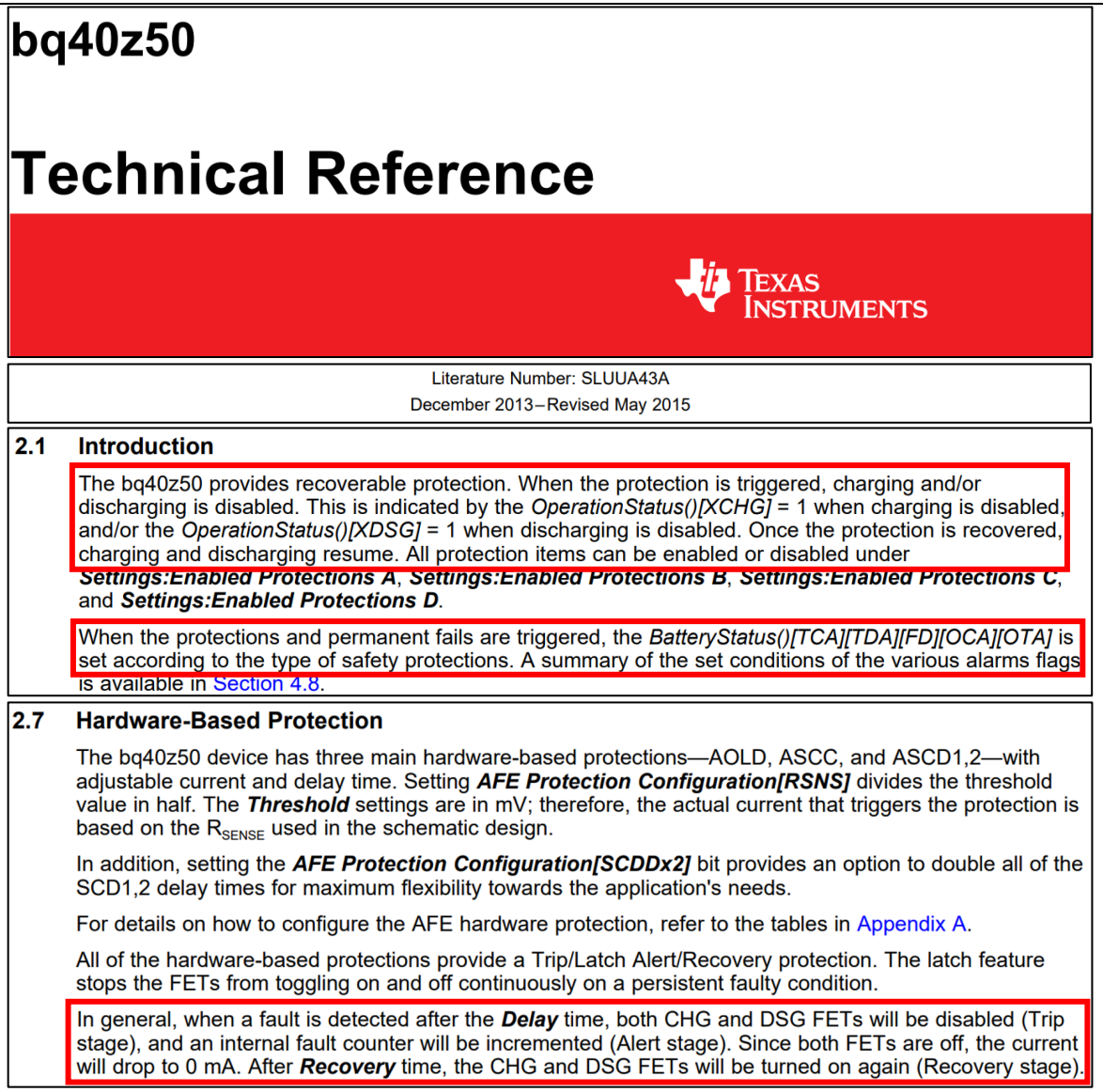
Claims	Identification

8.2 Functional Block Diagram



See, e.g., Texas Instruments, *Data Sheet: BQ40Z50 1-Series, 2-Series, 3-Series, and 4-Series Li-Ion Battery Pack Manager* (Nov. 2019) *available at* https://www.ti.com/lit/ds/symlink/bq40z50.pdf.

Claims	Identification



bq40z50

Technical Reference

Texas Instruments

Literature Number: SLUUA43A
December 2013–Revised May 2015

2.1 Introduction

The bq40z50 provides recoverable protection. When the protection is triggered, charging and/or discharging is disabled. This is indicated by the *OperationStatus()[XCHG]* = 1 when charging is disabled, and/or the *OperationStatus()[XDSG]* = 1 when discharging is disabled. Once the protection is recovered, charging and discharging resume. All protection items can be enabled or disabled under ***Settings:Enabled Protections A***, ***Settings:Enabled Protections B***, ***Settings:Enabled Protections C***, and ***Settings:Enabled Protections D***.

When the protections and permanent fails are triggered, the *BatteryStatus()[TCA][TDA][FD][OCA][OTA]* is set according to the type of safety protections. A summary of the set conditions of the various alarms flags is available in Section 4.8.

2.7 Hardware-Based Protection

The bq40z50 device has three main hardware-based protections—AOLD, ASCC, and ASCD1,2—with adjustable current and delay time. Setting ***AFE Protection Configuration[RSNS]*** divides the threshold value in half. The ***Threshold*** settings are in mV; therefore, the actual current that triggers the protection is based on the R_{SENSE} used in the schematic design.

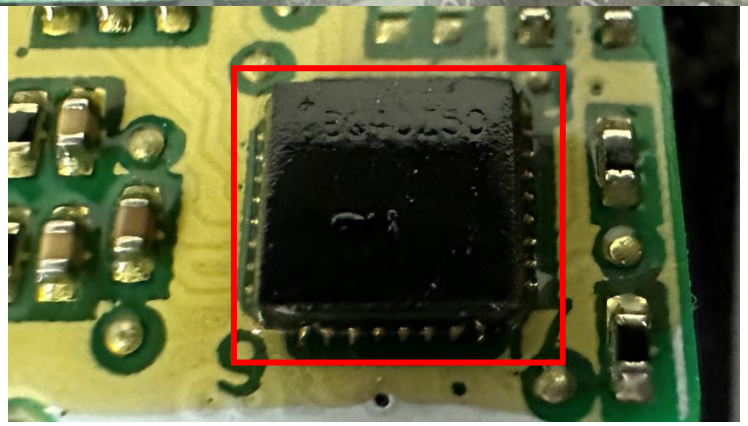
In addition, setting the ***AFE Protection Configuration[SCDDx2]*** bit provides an option to double all of the SCD1,2 delay times for maximum flexibility towards the application's needs.

For details on how to configure the AFE hardware protection, refer to the tables in Appendix A.

All of the hardware-based protections provide a Trip/Latch Alert/Recovery protection. The latch feature stops the FETs from toggling on and off continuously on a persistent faulty condition.

In general, when a fault is detected after the ***Delay*** time, both CHG and DSG FETs will be disabled (Trip stage), and an internal fault counter will be incremented (Alert stage). Since both FETs are off, the current will drop to 0 mA. After ***Recovery*** time, the CHG and DSG FETs will be turned on again (Recovery stage).

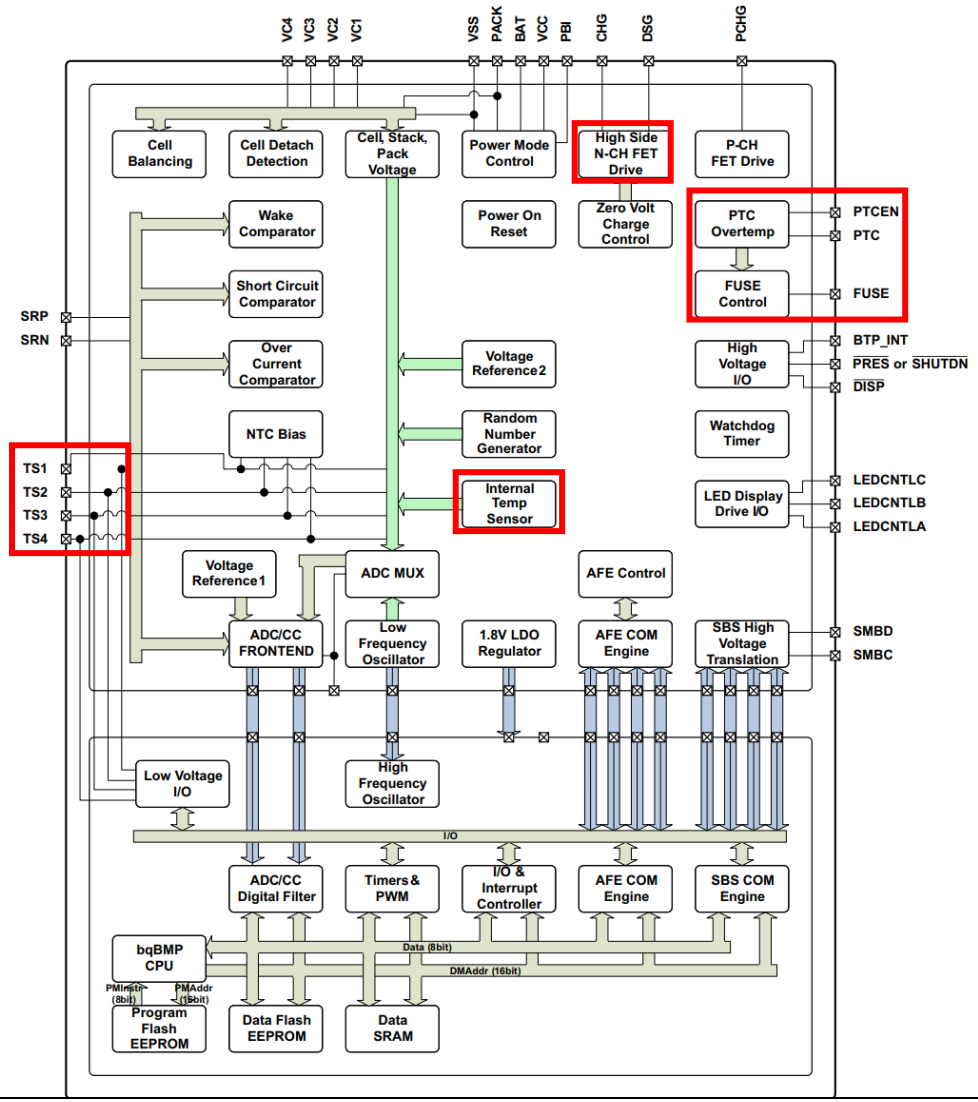
See, e.g., Texas Instruments, *bq40z50 Technical Reference* (May 2015) *available at* https://www.ti.com/lit/ug/sluua43a/sluua43a.pdf.

Claims	Identification
10[c] employing a thermal protection circuit to monitor for an overtemperature condition and to cause the electronic switch to assume the non-conducting condition when the overtemperature condition exists; and providing a negligible current from the power cell to the thermal protection circuit.	Asus-branded devices employing a thermal protection circuit to monitor for an overtemperature condition and to cause the electronic switch to assume the non-conducting condition when the overtemperature condition exists; and provide a negligible current from the power cell to the thermal protection circuit.   *See, e.g.*, Internal Testing (showing a rechargeable battery pack including a PCB including a Texas Instruments BQ40Z50 Li-ion battery pack manager).

Claims	Identification

BQ40Z50 1-Series, 2-Series, 3-Series, and 4-Series Li-Ion Battery Pack Manager

8.2 Functional Block Diagram



Claims	Identification

9.2.2.3.4 Temperature Output

For the BQ40Z50 device, TS1, TS2, TS3, and TS4 provide thermistor drive-under program control. Each pin can be enabled with an integrated 18-kΩ (typical) linearization pullup resistor to support the use of a 10-kΩ at 25°C (103) NTC external thermistor such as a Mitsubishi BN35-3H103. The reference design includes four 10-kΩ thermistors: RT1, RT2, RT3, and RT4. The BQ40Z50 device supports up to four external thermistors. Connect unused thermistor pins to V_{SS}.

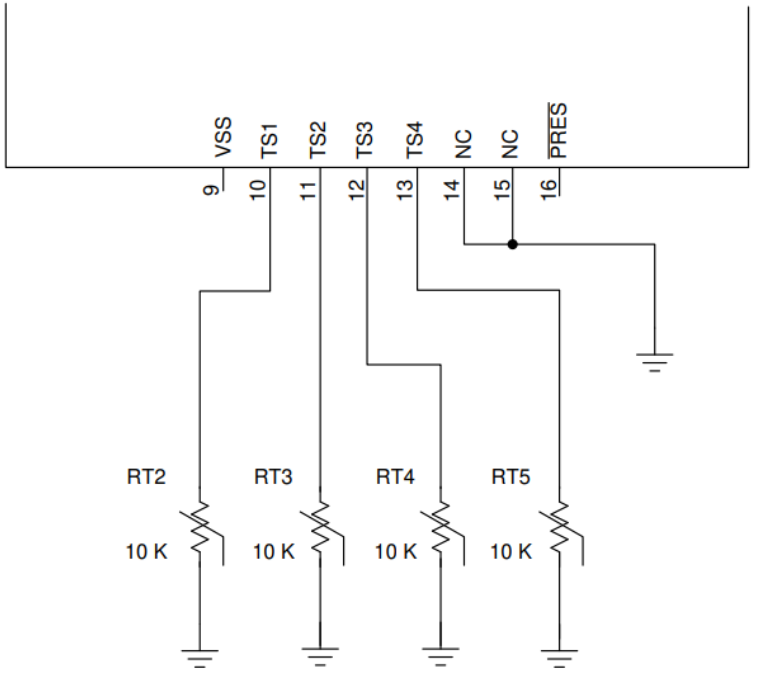


Figure 34. Thermistor Drive

9.2.2.3.6 Safety PTC Thermistor

The BQ40Z50 device provides support for a safety PTC thermistor. The PTC thermistor is connected between the PTC pin and V_{SS}. It can be placed close to the CHG/DSG FETs to monitor the temperature. The PTC pin outputs a very small current, typical ~370 nA, and the PTC fault will be triggered at ~0.7 V typical. A PTC fault is one of the permanent failure modes. It can only be cleared by a POR.

See, e.g., Texas Instruments, *Data Sheet: BQ40Z50 1-Series, 2-Series, 3-Series, and 4-Series Li-Ion Battery Pack Manager* (Nov. 2019), *available at* https://www.ti.com/lit/ds/symlink/bq40z50.pdf.

Claims	Identification

bq40z50

Technical Reference

Literature Number: SLUUA43A
December 2013–Revised May 2015

2.7 Hardware-Based Protection

The bq40z50 device has three main hardware-based protections—AOLD, ASCC, and ASCD1,2—with adjustable current and delay time. Setting ***AFE Protection Configuration[RSNS]*** divides the threshold value in half. The ***Threshold*** settings are in mV; therefore, the actual current that triggers the protection is based on the R_{SENSE} used in the schematic design.

In addition, setting the ***AFE Protection Configuration[SCDDx2]*** bit provides an option to double all of the SCD1,2 delay times for maximum flexibility towards the application's needs.

For details on how to configure the AFE hardware protection, refer to the tables in Appendix A.

All of the hardware-based protections provide a Trip/Latch Alert/Recovery protection. The latch feature stops the FETs from toggling on and off continuously on a persistent faulty condition.

In general, when a fault is detected after the ***Delay*** time, both CHG and DSG FETs will be disabled (Trip stage), and an internal fault counter will be incremented (Alert stage). Since both FETs are off, the current will drop to 0 mA. After ***Recovery*** time, the CHG and DSG FETs will be turned on again (Recovery stage).

Claims	Identification

2.8 Temperature Protections

The device provides overtemperature and undertemperature protections based on Cell Temperature measurement and FET temperature measurements. The Cell Temperature based protections are further divided into a protection-in-charging direction and discharging directions. This section describes in detail each of the protection functions.

For temperature reporting, the device supports a maximum of four external thermistors and one internal temperature sensor. Unused temperature sensors must be disabled by clearing the corresponding flag in ***Settings:Temperature Enable[TS4][TS3][TS2][TS1][TSInt]***.

Each of the external thermistors and the internal temperature sensor can be set up individually as a source for Cell Temperature or FET Temperature reporting. Setting the corresponding flag to 1 in ***Settings:Temperature Mode[TS4 Mode][TS3 Mode][TS2 Mode][TS1 Mode][TSInt Mode]*** configures that temperature sensor to report for FET Temperature. Clearing the corresponding flag sets that temperature sensor to report for Cell Temperature. The ***Settings:DA Configuration[FTEMP][CTEMP]*** allows users to use the maximal (setting the corresponding flag to 0) or the average (setting the corresponding flag to 1) of the source temperature sensors for Cell Temperature and FET Temperature reporting.

The *Temperature()* command returns the Cell Temperature measurement. The MAC and extended command *DAStatus2()* also returns the temperature measurement from the internal temperature sensor, the external thermistors TS1, TS2, TS3, and TS4, and the Cell and FET Temperatures.

The Cell Temperature based overtemperature and undertemperature safety provide protections in charge and discharge conditions. The battery pack is considered in CHARGE mode when *BatteryStatus()[DSG]* = 0, where *Current()* > ***Chg Current Threshold***. The overtemperature and undertemperature in charging protections are active in this mode. The *BatteryStatus()[DSG]* is set to 1 in a NON-CHARGE mode condition, which includes RELAX and DISCHARGE modes. The overtemperature and undertemperature in discharge protections are active in these two modes. See Section 6.3 for detailed descriptions of the gas gauge modes.

2.9 Overtemperature in Charge Protection

The device has an overtemperature protection for cells under charge.

Status	Condition	Action
Normal	*Temperature()* < ***OTC:Threshold*** OR not charging	*SafetyAlert()[OTC]* = 0
Alert	*Temperature()* ≥ ***OTC:Threshold*** AND charging	*SafetyAlert()[OTC]* = 1 *BatteryStatus()[TCA]* = 1
Trip	*Temperature()* ≥ ***OTC:Threshold*** AND Charging for ***OTC:Delay*** duration	*SafetyAlert()[OTC]* = 0 *SafetyStatus()[OTC]* = 1 *BatteryStatus()[OTA]* = 1 *BatteryStatus()[TCA]* = 0 *OperationStatus()[XCHG]* = 1 if ***FET Options[OTFET]*** = 1.
Recovery	*SafetyStatus()[OTC]* AND *Temperature()* ≤ ***OTC:Recovery***	*SafetyStatus()[OTC]* = 0 *BatteryStatus()[OTA]* = 0 *BatteryStatus()[TCA]* = 0 *OperationStatus()[XCHG]* = 0

Claims	Identification

2.10 Overtemperature in Discharge Protection

The device has an overtemperature protection for cells in DISCHARGE or RELAX state (that is, non-charging state with *BatteryStatus[DSG]* = 1).

Status	Condition	Action
Normal	*Temperature()* < ***OTD:Threshold*** OR charging	*SafetyAlert()[OTD]* = 0
Alert	*Temperature()* ≥ ***OTD:Threshold*** AND Not charging (that is, *BatteryStatus[DSG]* = 1)	*SafetyAlert()[OTD]* = 1 *BatteryStatus()[TDA]* = 1
Trip	*Temperature()* ≥ ***OTD:Threshold*** AND Not charging (that is, *BatteryStatus[DSG]* = 1) for ***OTD:Delay*** duration	*SafetyAlert()[OTD]* = 0 *SafetyStatus()[OTD]* = 1 *BatteryStatus()[OTA]* = 1 *OperationStatus()[XDSG]* = 1 if ***FET Options[OTFET]*** = 1. *BatteryStatus()[TDA]* = 0
Recovery	*SafetyStatus()[OTD]* AND *Temperature()* ≤ ***OTD:Recovery***	*SafetyStatus()[OTD]* = 0 *BatteryStatus()[OTA]* = 0 *OperationStatus()[XDSG]* = 0 *BatteryStatus()[TDA]* = 0

3.19 PTC Permanent Fail

The device can detect overtemperature using a positive temperature coefficient (PTC) resistor connected to the PTC pin. This protection also works in SHUTDOWN mode.

If the device detects a PTC pin high state, the CHG and DSG FETs are turned off, and the pack is disabled permanently. For manufacturer testing, the fault state can be reset by a full power cycle of the device.

This is a hardware controlled feature. To enable this feature, the PTCEN pin should be tied to BAT. To disable this feature, connect the PTCEN pin to ground.

Status	Condition	Action
Normal	Reset AFE and PTC pin = low	*PFStatus()[PTC]* = 0
Trip	PTC pin = high	*PFStatus()[PTC]* = 1 FUSE = high *BatteryStatus()[TCA]* = 1 *BatteryStatus()[TDA]* = 1

See, e.g., Texas Instruments, *bq40z50 Technical Reference* (May 2015) *available at* https://www.ti.com/lit/ug/sluua43a/sluua43a.pdf.